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Ms. J. Signe Snortland
Senior Environmental Specialist
Bureau of Reclamation
P.O. Box 1017
304 East Broadway
Bismarck, ND 58502

Re: Draft Environmental Impact Statement (DEIS) Comments
Red River Valley Water Supply (RRVWS) Project

Dear Ms. Snortland:

Thank you for the opportunity to review and provide comments on the DEIS prepared by the Bureau of Reclamation (Reclamation) and the Garrison Diversion Conservancy District (Garrison Diversion) for the RRVWS Project. Please accept the following comments discussed by category from the City of Grand Forks per your requested deadline of April 14, 2006. The City respectfully requests that the comments provided herein be addressed appropriately. The City of Grand Forks has also submitted comments dated September 29, 2005 regarding the Draft Needs and Options (N&O) Report. Responses to the Draft N&O Report comments were recently made available. Based on a preliminary review of the responses, various comments provided on the DEIS reiterate and/or expand on the Draft N&O Report comments. In such instances, the City of Grand Forks requests that the comments be reconsidered in favor of a more appropriate response.

Operational Assumptions

Through participation in Lake Agassiz Water Authority (LAWA) activities, the City of Grand Forks is aware of recommendations for full disclosure of and suggested revisions to the operational assumptions developed to date for the RRVWS Project alternatives. Such recommendations and suggested revisions include the following, which are supported by the City of Grand Forks:

- The identification of acceptable supplemental water supply triggers that modify the assumption that zero flow conditions at various locations on the Red River would prompt the operation of supplemental water supply features;
- The consideration of aquatic environment needs flows identified by the North Dakota Game and Fish Department (NDG&FD); and
- The preservation of the Thompson-Acker appropriation allocations for the benefit of stakeholders that participated in cost-share contributions during the construction of and subsequent improvements to Bald Hill Dam.

Based on the support for the selection of the Garrison Diversion Unit (GDU) Import to the Sheyenne River Alternative and the request to maintain Thompson-Acker appropriations in all of the alternatives, the City of Grand Forks maintains its previously expressed concerns in comments dated September 29, 2005 on the Draft N&O Report. In summary, these concerns consisted of the ability to accurately forecast the need for permitted releases from Bald Hill Dam, the control over Bald Hill Dam operations, transfer efficiencies associated with channel and evaporative losses, and extended hydraulic travel times in the Sheyenne River and Red River, which have been estimated at more than a month for Grand Forks to receive and withdraw released flows from Lake Ashtabula.

According to the Final N&O Report, the City of Grand Forks does not show a significant water supply shortage in year 2050 under drought conditions. However, the City has been informed that certain modifications to the operational assumptions and data of the hydrology model, such as limitations regarding the availability of and ability to utilize return flows, significantly increases the projected water supply shortages for the Greater Grand Forks area. The variability of the hydrology modeling results with respect to return flows has prompted consternation and uncertainty as the City of Grand Forks contemplates the extent at which it should participate in the RRVWS Project. From the City's perspective, the anticipated revisions to the operational assumptions should also consider the following:

- The lack of gauging stations on the Red River from Fargo to Grand Forks;
- The accuracy of gauging stations under low flow conditions;
- The limited ability to measure and monitor permitted project flows intended for stakeholders, permitted project flows to meet aquatic environment needs, and natural flows;
- The method of accounting for gaining and losing stream segments of the Sheyenne River and Red River;
- An aquatic environment needs flow target at Grand Forks;
- Potential diminished or revoked riparian water right allocations during drought conditions for systems dependent on Minnesota tributaries of the Red River, such as the Red Lake River utilized by the City of Grand Forks;
- The implications associated with a more severe drought and/or deviations from the 1930s drought of record serving as the basis for the hydrology modeling effort; and
- Impacts associated with the identification of thresholds for various water quality parameters affecting water treatment facilities and the ability to meet acceptable finished water quality standards.

The City of Grand Forks is aware that efforts are being considered to establish revised operational assumptions based on sensitivity analyses pertaining to drought severity, return flows, supplemental water supply targets and triggers, and water demand projections. The City supports the completion of these analyses and requests that alternatives warranting additional consideration be refined as appropriate. The City of Grand Forks looks forward to reviewing new information as it becomes available that reflects revised operational assumptions in accordance with the concerns expressed above and the recommendations from the sensitivity analyses.

Water Demand Projections

From the City's perspective, the population and water demand projections presented in the Draft N&O Report appear to adequately represent a reasonable range of water system capacity requirements during dry weather conditions for Grand Forks. However, the City of Grand Forks recognizes the comments received by Reclamation in regards to the population and water demand projections presented in the Draft N&O Report and supports the completion of a sensitivity analysis to develop a range of alternate projections. It is anticipated that the alternate range of projections will incorporate the consideration of drought contingency measures, which were excluded from the Draft N&O Report projections. Although the City of Grand Forks is in the process of developing a drought management plan and concurs with the application of drought contingency measures to an appropriate degree, the City's support for the application of such measures to RRVWS Project demand projections is contingent upon the incorporation of revised operational assumptions, as noted above.

The City of Grand Forks does not support the consideration of utilizing groundwater appropriations from the Elk Valley Aquifer as a feature to meet its peak day demands during a drought based on: 1) a conceptual study effort completed by the City that identified excessive capital costs to obtain meaningful system capacities; 2) the current level of appropriations granted in the Elk Valley Aquifer and the reluctance on behalf of the North Dakota State Water Commission (NDSWC) to consider additional permit requests; 3) recently enacted North Dakota law discouraging the conversion of agricultural water rights; and 4) the negative financial impacts described in the DEIS. According to the DEIS, this feature is included in the North Dakota In-Basin Alternative, the Red River Basin Alternative, the Lake of the Woods Alternative, and the Missouri River Import to the Red River Valley Alternative. Because of the issues listed above, the ability for these alternatives to adequately meet the City's peak day water demand projections is limited.

Water Quality

The existing surface water sources available to Grand Forks are of relatively poor quality and pose rather significant treatment challenges. Due to the age of existing water treatment facilities, potential regulatory compliance issues, and limitations with respect to projected capacity requirements, the City is in the midst of planning for relatively significant water treatment improvements in the near future. Therefore, the water quality of existing surface water sources during low flow conditions in the presence and absence of the RRVWS Project is of critical importance, especially given the water quality degradation experienced during low flows according to historical data and the identification of water quality as a need in the Dakota Water Resources Act (DWRA). Unfortunately, many of the questions and concerns raised by the City of Grand Forks regarding water quality remain to be adequately addressed, which limits the ability to properly conduct ongoing planning efforts and identify appropriate water treatment concepts and associated costs.

Water quality uncertainties are further complicated due to the apparent dependence on return flows by upstream systems to meet the demands of downstream users on the Red River. Under low flow conditions, the presence of return flows could pose significant water quality challenges associated with increased levels of salinity, microbial pathogens, and/or pharmaceuticals and personal care products. Therefore, statements in the Final N&O Report indicating that the City of Grand Forks would be capable of treating a water source that is dominated by return flows are potentially misleading. The presence of contaminants beyond acceptable levels could limit the effectiveness of conventional water treatment processes and require wastewater treatment enhancements or advanced water treatment technologies. If such water and wastewater treatment improvements are necessary, it would be reasonable to consider the requirements as features of the respective alternatives.

To make good decisions, the City of Grand Forks needs to know the water quality it will receive via participation in the RRVWS Project. Based on the concerns noted above, the City of Grand Forks supports the completion of additional water quality modeling efforts identified at the recent Water Quality Workshop. It is anticipated that the ensuing water quality model results will address the issues of low flow conditions and return flows. The City is also aware that a "side bar" analysis is planned to address treatment issues associated with water quality thresholds identified in a technical document prepared on behalf of RRVWS Project stakeholders. Consequently, it is anticipated that critical information will be presented in the Final EIS that evaluates the potential water quality degradation impacts during low flow conditions, which will ultimately assess the impacts of return flows, identify potential water/wastewater treatment implications, dictate the possible need for increased RRVWS Project flows, and most importantly, assist stakeholders with critical decision-making processes.

Aquatic Environment

As presented in the DEIS, the RRVWS Project alternatives do not recognize the aquatic environment flow recommendations identified by the NDG&FD, which was noted as a suggested revision under the discussion of operational assumptions. The City of Grand Forks supports the inclusion of reasonable aquatic environment flows in the RRVWS Project due to the realized benefits toward meeting recreational needs and general aesthetic quality of life to areas adjacent to rivers receiving supplemental flows. It is the City's opinion that the costs associated with including project flows to meet aquatic environment needs should be assigned to state and/or federal entities, as appropriate, instead of the users of the RRVWS Project. As a related legal concern, the City anticipates that a strategy will need to be developed to adequately measure, monitor, and regulate project flows to the users, project flows assigned to meet aquatic needs, and natural flows available to meet appropriated allocations.

Alternatives

No Action Alternative: The projected water shortages presented in the DEIS under the No Action Alternative substantiate the concerns expressed by water systems regarding the lack of available water resources in the Red River Valley. The DEIS also indicates that substantially negative economic, environmental, riparian, aquatic, recreational, and social impacts would

result from an inadequate supply of water during a drought, which justifies the implementation of an acceptable RRVWS Project alternative. It is anticipated that the Final EIS will include revised water shortage projections to reflect the incorporation of suggested operational assumptions, the results of sensitivity analyses, and water quality degradation issues. The City of Grand Forks is relying on the revised water shortage projections to improve its drought impact assessment and properly evaluate its level of participation in the RRVWS Project.

North Dakota In-Basin Alternative: Comments previously raised by the City of Grand Forks and other stakeholders regarding the feasibility of features comprising the North Dakota In-Basin alternative remain to be adequately addressed. Such comments involve various technical and legal issues that could prevent the features from providing an adequate quantity and/or quality of water to the degree estimated, which could ultimately result in failure of meeting the intended purpose of serving as a supplemental water supply. For reasons mentioned above, the City of Grand Forks disagrees with the concept of transferring water rights from the Elk Valley Aquifer to meet the City's peak day demands, which is an applicable statement by reference for the Red River Basin Alternative, the Lake of the Woods Alternative, and the Missouri River Import to the Red River Valley Alternative.

The City is also very concerned about the primary feature of the North Dakota In-Basin Alternative, which consists of a recycle pipeline from Grand Forks to Lake Ashtabula. The concept of recycling water over extended periods of time implies that water quality issues would arise. It is anticipated that ensuing water quality modeling efforts will identify potential water quality problems associated with the North Dakota In-Basin Alternative.

Moreover, the inability to maintain the Fish and Wildlife Conservation Pool in Lake Ashtabula for 1 month and 22 months under the Scenario 1 and Scenario 2 water demand projections, respectively, suggests that the North Dakota In-Basin Alternative is relatively sensitive to variations in the water supply and water demand values utilized in the hydrology model. As such, the inability to increase the capacity of the North Dakota In-Basin Alternative becomes a significant limitation. The completion of sensitivity analyses with respect to water demand projections, return flows, and drought severity should be considered to assess the risks associated with the ability of the North Dakota In-Basin Alternative to meet the needs of the RRVWS Project. The results of the sensitivity analyses should be presented in the Final EIS.

Red River Basin Alternative: Under the Red River Basin Alternative, the City of Grand Forks is heavily dependent on the presence of return flows to meet its projected water demands. The dependence on return flows is the primary cause for the concerns expressed in regards to water quality. In addition, the City of Grand Forks is privy to information suggesting that the State of Minnesota could condition the use of identified groundwater resource to essential demands. The corresponding reduction in demand would likely require relatively severe water use restrictions. If so, the volume of return flows from the Fargo/Moorhead area and other entities could be substantially reduced and are likely not represented in the hydrology modeling work completed to date. Accurate water quality information and the disclosure of potential limitations regarding the use of groundwater resources in Minnesota need to be addressed in the Final EIS in order for the City of Grand Forks to assess the feasibility of the Red River Basin Alternative.

Lake of the Woods Alternative: Because of the preliminary route identified for the pipeline from Lake of the Woods, the City of Grand Forks is directly allocated approximately 20 cubic feet per second (cfs) of system capacity under the Lake of the Woods Alternative. The benefit of receiving water directly from a pipeline has been previously identified as a desire by the City of Grand Forks for water quality reasons; however, the estimated project costs associated with the Lake of the Woods Alternative prevent the City of Grand Forks from supporting its implementation due to the anticipated local rate impacts. The likelihood for political opposition and the stipulated conditions regarding the use of water from Lake of the Woods are also contentious issues that preclude the City of Grand Forks from giving the Lake of the Woods Alternative serious consideration.

GDU Import to the Sheyenne River Alternative: When compared to other RRVWS Project alternatives, the GDU Import to the Sheyenne River Alternative appears to minimize the negative impacts associated with a severe drought according to the various technical, financial, and environmental analyses presented in the DEIS. Moreover, the GDU Import to the Sheyenne River Alternative is noted as providing recreational benefits, improved aquatic habitat, and riparian enhancements along the Sheyenne River. Via incorporating the revised operational assumptions, it is anticipated that the aquatic habitat improvements and riparian enhancements could be extended to segments of the Red River as well. Most importantly, the City of Grand Forks supports the implementation of the GDU Import to the Sheyenne River Alternative based on its ability to meet the identified needs of the RRVWS Project, the system flexibility and redundancy provided via the use of Lake Ashtabula as a regulating reservoir, and its identification as the least cost alternative. However, the City requests that its expressed concerns about system operations and the water quality that would be available under the GDU Import to the Sheyenne River Alternative be recognized and addressed in the Final EIS.

GDU Import Pipeline Alternative: As noted under the discussion of the Lake of the Woods Alternative, the delivery of water via a pipeline would assure participating stakeholders a specific quantity and quality of water when needed. Nevertheless, the estimated costs associated with receiving these benefits under the GDU Import Pipeline Alternative are unacceptably high due to the increased length of transmission pipeline and corresponding size requirements in the absence of utilizing Lake Ashtabula for flow regulation. In addition, the GDU Import Pipeline Alternative provides reduced recreational, riparian, and aquatic environment benefit as compared to the GDU Import to the Sheyenne River Alternative.

Missouri River Import to the Red River Valley Alternative: The City of Grand Forks has identified financial and technical limitations associated with the Missouri River Import to the Red River Valley Alternative. Much like other alternatives that involve increased transmission pipeline lengths, the estimated costs of the Missouri River Import to the Red River Valley Alternative are relatively high and would likely result in excessive user costs without substantial amounts of state/federal grant funding. Although the size of the transmission pipeline could be increased to eliminate questionable groundwater and storage features intended to meet peak day demands, the anticipated increase in estimated project costs would exacerbate user cost impacts.

GDU Replacement Water Supply Pipeline Alternative: In theory, the GDU Replacement Water Supply Pipeline Alternative offers economy of scale benefits by providing treated water to RRVWS Project stakeholders, thereby reducing the costs of related and required infrastructure and eliminating the need to operate and maintain local water supply and treatment infrastructure. Unfortunately, most systems recognize that emergency and backup facilities would be required due to the timeline associated with making repairs and performing maintenance on large diameter transmission pipelines. Furthermore, the features needed to convey water to the entire Red River Valley result in extremely high project costs, which prevents the City of Grand Forks from considering the GDU Replacement Water Supply Pipeline Alternative as a viable option.

Biota Transfer

The results of the biota transfer risk analysis presented in the DEIS support the viability of importing water from the Missouri River to meet the projected needs of RRVWS Project. Despite the determination that "the most invasive species probably either have or will be established in the Hudson Bay Basin, with or without an inter-basin water transfer by this project," the City of Grand Forks anticipates the continued need for a biota treatment facility under the import alternatives to satisfy other stakeholders. In review of the processes comprising the biota treatment facilities listed in the DEIS and the Final N&O Report, a minor discrepancy was noted regarding the intent to utilize a secondary disinfectant in the transmission pipeline system. This discrepancy should be clarified in the Final EIS.

The biota transfer risk analysis assessed three general scenarios. Of these scenarios, the GDU Import to the Sheyenne River Alternative would best represent a "piped and treated" alternative based on the emphasis placed on treatment rather than the method of conveyance. The City of Grand Forks concurs with this suggestion and is confident that adequate control measures can be implemented to address valid biota transfer concerns.

Financial Analysis

A rather simple financial and affordability analysis is presented in the DEIS based on a series of assumptions. Although the City of Grand Forks is not in disagreement with the financial analysis presented in the DEIS, it is suggested that the financial analysis be expanded to better reflect the present population of the Red River Valley in addition to considering the projected population in year 2030, current monthly water costs, and anticipated rate impacts of identified local capital improvements. As noted above, the City of Grand Forks is very concerned about the financial implications associated with participating in the RRVWS Project. Since the costs of participation will likely be incurred prior to year 2030, the near-term user costs as a percentage will likely be higher because of the smaller population of the region now as compared to the projected population in the future.

In consideration of cost thresholds established by federal agencies as a function of median household income, it is important to consider the total cost of providing water service. As such, the current monthly costs of water, which were included in the respective Water System

Summary Reports, should be included in the affordability analysis. It is also important to note that the Environmental Protection Agency is in the process of evaluating its affordability criteria, which could have a direct effect on the financial analysis presented in the DEIS. As discussed in prior correspondence, the City of Grand Forks is presently contemplating major water system capital improvements for implementation in the near future, which will undoubtedly need to enter the City's evaluation process with respect to its participation in the RRVWS Project. In summary, the Final EIS should include a financial analysis that considers present cost impacts, includes the current monthly cost of water, and recognizes the need for local infrastructure and capital improvements.

Conclusion

The City of Grand Forks is depending on the RRVWS Project studies to provide accurate information regarding the need and associated extent of acquiring a supplemental water supply of adequate quantity and quality to meet its future demands. We look forward to continuing our active role in the RRVWS Project as the concerns identified herein and those provided by others are addressed during the transition of the DEIS to a final document. If you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

Allen R. Grasser, P.E.
City Engineer

c: Curt Kreun, Grand Forks City Council
Rick Duquette, City Administrator
Todd Feland, Public Works Administrator
Hazel Fetters-Sletten, Water Utility Superintendent
Steve Burian, P.E., Advanced Engineering and Environmental Services, Inc.